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An Object-Oriented Data Reduction System in Fortran

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A data reduction system for the AAO two-degree field project is being developed using an object-oriented approach. Rather than use an object-oriented language (such as C++) the system is written in Fortran and makes extensive use of existing subroutine libraries provided by the UK Starlink project. Objects are created using the extensible N-dimensional Data Format (NDF) which itself is based on the Hierarchical Data System (HDS).

The software consists of a class library, with each class corresponding to a Fortran subroutine with a standard calling sequence. The methods of the classes provide operations on NDF objects at a similar level of functionality to the applications of conventional data reduction systems. However, because they are provided as callable subroutines, they can be used as building blocks for more specialist applications.

The class library is not dependent on a particular software environment though it can be used effectively in ADAM applications. It can also be used from standalone Fortran programs. It is intended to develop a graphical user interface for use with the class library to form the 2dF data reduction system.